

Status of the Claims:

This listing of claims, which is included for reference, lists the allowed claims in the application:

Listing of Claims:

Claim 1 (original): A low-pressure mercury vapor discharge lamp comprising an at least partly substantially cylindrical discharge vessel with a length  $L_{dv}$  and with an internal diameter  $D_{in}$ ,

- the discharge vessel enclosing, in a gastight manner, a discharge space provided with a inert gas mixture and with mercury,
- the discharge vessel comprising discharge means for maintaining a discharge in the discharge space, characterized in that the ratio of the weight of mercury  $m_{Hg}$  in the discharge vessel to the product of the internal diameter  $D_{in}$  and the length of the discharge vessel  $L_{dv}$  is given by the relation:

$$\frac{m_{Hg}}{D_{in} \times L_{dv}} = C ,$$

wherein  $C \leq 0.01 \text{ } \mu\text{g/mm}^2$ .

Claim 2 (original): A low-pressure mercury vapor discharge lamp as claimed in claim 1, characterized in that  $0.0005 \leq C \leq 0.005 \text{ } \mu\text{g/mm}^2$ .

Claim 3 (original): A low-pressure mercury vapor discharge lamp comprising an at least partly substantially cylindrical discharge vessel with a length  $L_{dv}$  and with an internal diameter  $D_{in}$ ,

- the discharge vessel enclosing, in a gastight manner, a discharge space provided with a inert gas mixture and with mercury,
- the discharge vessel comprising discharge means for maintaining a discharge in the discharge space, characterized in that
- the product of the mercury pressure  $p_{Hg}$  and the internal diameter  $D_{in}$  of the discharge vessel is in a range of  $0.13 \leq p_{Hg} \times D_{in} \leq 8 \text{ Pa.cm.}$

Claim 4 (original): A low-pressure mercury vapor discharge lamp as claimed in claim 3, characterized in that the product of the mercury pressure  $p_{Hg}$  and the internal diameter  $D_{in}$  of the discharge vessel is in a range of  $0.13 \leq p_{Hg} \times D_{in} \leq 4 \text{ Pa.cm.}$

Claim 5 (previously presented): A low-pressure mercury vapor discharge lamp as claimed in claim 1, characterized in that the discharge vessel contains less than 0.1 mg mercury.

Claim 6 (previously presented): A low-pressure mercury vapor discharge lamp as claimed in claim 1, characterized

- in that the discharge means comprises electrodes arranged in the discharge space,
- in that an electrode shield at least substantially surrounds at least one of the electrodes, and
- in that the electrode shield is made from a ceramic material or from stainless steel.

Claim 7 (previously presented): A low-pressure mercury vapor discharge lamp as claimed in claim 1, characterized

- in that the means for maintaining an electric discharge are situated outside a discharge space surrounded by the discharge vessel, and
- in that said means comprise a coil provided with a winding of an electrical conductor, with a high-frequency

voltage, for example having a frequency of approximately 3 MHz, being supplied to said coil in operation.

Claim 8 (previously presented): A low-pressure mercury vapor discharge lamp as claimed in claim 1, characterized in that the product of the pressure of the inert gas mixture  $p_{igm}$  and the internal diameter  $D_{in}$  of the discharge vessel is in a range of  $p_{igm} \times D_{in} \geq 5.2$  Pa.m.

Claim 9 (original): A low-pressure mercury vapor discharge lamp as claimed in claim 8, characterized in that  $p_{igm} \times D_{in} \geq 8$  Pa.m.

Claim 10 (previously presented): A low-pressure mercury vapor discharge lamp as claimed in claim 1, characterized

- in that at least a portion of an inner wall of the discharge vessel is provided with a protective layer, and
- in that the protective layer comprises a material selected from the group formed by oxides of scandium, yttrium, and a further rare-earth metal, and/or a material selected from the group formed by borates of an alkaline-earth metal, scandium, yttrium, and a further rare-earth metal, and/or a material selected from the

group formed by phosphates of an alkaline-earth metal, scandium, yttrium, and a further rare-earth metal.

Claim 11 (original): A low-pressure mercury vapor discharge lamp as claimed in claim 10, characterized in that the alkaline-earth metal is calcium, strontium, and/or barium.

Claim 12 (original): A low-pressure mercury vapor discharge lamp as claimed in claim 10, characterized in that the further rare-earth metal is lanthanum, cerium, and/or gadolinium.

Claim 13 (original): A low-pressure mercury vapor discharge lamp as claimed in claim 10, characterized in that the oxide is yttrium oxide and/or gadolinium oxide.

Claim 14 (original): A low-pressure mercury vapor discharge lamp as claimed in claim 10, characterized in that the discharge vessel is made from a glass comprising silicon dioxide and sodium oxide, with a glass composition comprising the following essential

constituents, given in percentages by weight (wt.%):

60-80 wt.% SiO<sub>2</sub> and 10-20 wt.% Na<sub>2</sub>O.

Claim 15 (original): A low-pressure mercury vapor discharge lamp as claimed in claim 14, characterized in that the glass composition includes the following constituents:

70-75 wt.% SiO<sub>2</sub>, 15-18 wt.% Na<sub>2</sub>O, and 0.25-2 wt.% K<sub>2</sub>O.

Claim 16 (previously presented): A low-pressure mercury vapor discharge lamp as claimed in claim 1, characterized in that the discharge vessel is made from a glass which is substantially free of PbO and which compromises, expressed as a percentage by weight, the following constituents: 55-70 wt.% SiO<sub>2</sub>, <0.1 wt.% Al<sub>2</sub>O<sub>3</sub>, 0.5-4 wt.% Li<sub>2</sub>O, 0.5-3 wt.% Na<sub>2</sub>O, 10-15 wt.% K<sub>2</sub>O, 0-3 wt.% MgO, 0-4 wt.% CaO, 0.5-5 wt.% SrO, 7-10 wt.% BaO.

Claim 17 (original): A low-pressure mercury vapor discharge lamp as claimed in claim 16, characterized in that the composition of the discharge vessel comprises: 65-70 wt.% SiO<sub>2</sub>, 1.4-2.2 wt.% Li<sub>2</sub>O, 1.5-2.5 wt.% Na<sub>2</sub>O,

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11-12.3 wt.% K<sub>2</sub>O, 1.8-2.6 wt.% MgO, 2.5-5 wt.% CaO, 2-3.5  
wt.% SrO, 8-9.5 wt.% BaO.

Claim 18 (original): A low-pressure mercury vapor discharge lamp as claimed in claim 16, characterized in that the composition of the discharge vessel in addition comprises:

0.01-0.2 wt.% Fe<sub>2</sub>O<sub>3</sub> and/or 0.01-0.2 wt.% CeO<sub>2</sub> and/or  
0.01-0.15 wt.% SO<sub>3</sub>.

Claim 19 (original): A low-pressure mercury vapor discharge lamp as claimed in claim 16, characterized in that the sum of the concentrations of Li<sub>2</sub>O, Na<sub>2</sub>O, and K<sub>2</sub>O is in a range from 14 to 16 wt.% and/or the sum of the concentrations of SrO and BaO is in a range from 10 to 12.5 wt.%.

Claim 20 (previously presented): A compact fluorescent lamp comprising a low-pressure mercury vapor discharge lamp as claimed in claim 1, characterized in that a lamp housing is attached to the discharge vessel of the low-

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pressure mercury vapor discharge lamp, which lamp housing  
is provided with a lamp cap.